

January 29, 2021

Mr. Marc Holma  
State Historic Preservation Office  
Virginia Department of Historic Resources  
2801 Kensington Avenue  
Richmond, VA 23221

Subject: Dulles Solar Development: Phase I Archaeological Survey Results  
Washington Dulles International Airport  
Fairfax and Loudoun Counties, Virginia

Dear Mr. Holma:

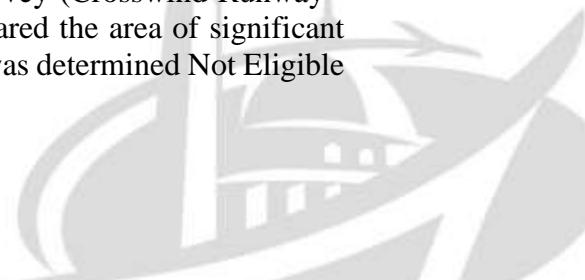
The Metropolitan Washington Airports Authority (Airports Authority) hereby requests your review of the attached Management Summary for the recently completed Phase I Archaeological Survey of the Proposed Dulles Solar Development at Washington Dulles International Airport (IAD). As you will remember, we initiated consultation with your office on the proposed development of an approximately 1,400-acre solar farm, Dulles Solar Project at Washington Dulles International Airport.

At the that time, we provided an overview of the proposed architectural and archaeological survey effort for the proposed development and received concurrence (VDHR 2020-0024). The Phase I testing commenced on Monday, September 7, 2020 and was completed on Monday, January 18, 2021. The attached Management Summary includes the results of the Phase I archaeological survey and was completed as a task-order assignment to the Airports Authority's consultant, WSP USA, and its sub consultant, Elizabeth Anderson Comer / Archaeology, Inc. (EAC/A).

We make this request pursuant to the 1987 Programmatic Memorandum of Agreement (PA) among the United States Department of Transportation, the Virginia State Historic Preservation Office (VDHR/VASHPO), and the Advisory Council on Historic Preservation (ACHP). In addition, this consultation document is intended to address the environmental analysis and recordation requirements related to Section 102(c) of the National Environmental Policy Act of 1969 (as amended) and Section 4(f) of the United States Department of Transportation Act of 1966 (23 U.S.C. 138).

## **1.0 ARCHAEOLOGICAL SURVEY AREA**

As noted during our initial consultation, a substantial portion of this area has been previously investigated in a comprehensive archaeological survey (Crosswind Runway - Phase I Archeological Survey, VDHR 1990-0460), which cleared the area of significant archaeological sites. One site, 44LD1091, located in this area was determined Not Eligible



for the National Register of Historic Places (NRHP). This area, comprising 1,079.2 acres, need not be surveyed again, and has been eliminated from the proposed investigation, leaving 329.0 acres to be investigated.

## **2.0 ARCHAEOLOGICAL SURVEY RESULTS**

The Phase I archaeological survey of the Dulles Solar Project APE did not identify any new sites. The recovery of one diagnostic artifact has helped refine the chronology of prehistoric site 44LD1088. Sites 44LD1087, 44LD1089, and 44LD1090 were also investigated. The original recommendation for all the sites was that they were not eligible for the National Register since they lack integrity and information potential and those prior recommendations remain valid. The current survey did recover additional artifacts associated with 44LD1088, including a Middle Archaic diagnostic tool form, which provided additional information for site, but this new material was not considered sufficient to make the site NRHP eligible, given its scattered nature and limited sub-surface integrity.

## **3.0 CONCLUSIONS AND RECOMMENDATIONS**

With only a few exceptions, which were extensively investigated, the entire Dulles Solar Project area possesses little to no potential for archaeological resources based on severe soil deflation, resulting in the lack of a historic plow zone in many areas. No further work is recommended. The draft Phase I technical report is in preparation and will be submitted for view and comment in February 2021. The results of the complete architectural survey, which did not identify any on-airport resources that could be affected by the project, are being compiled and will be submitted in March 2021.

The Airports Authority hopes that the provided management summary provides sufficient detail on the methodology and results of the completed survey to support our recommendations that all of the archaeological sites within the current project archaeological APE are Not Eligible for the NRHP and additional archaeological investigations are not recommended. A digital copy of the document is attached to help streamline your review, a hard copy will follow by standard mail.

As always, we appreciate your assistance in our efforts to comply with the terms of the PA. To facilitate your prompt review and approval of this proposed project, we have included a concurrence/signature line at the bottom of this letter. If the attached documentation is considered adequate to fulfill the requirements of the conditional agency consultation, please indicate your concurrence and return a copy of the letter to the Airports Authority.

M. Holma  
Department of Historic Resources  
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Feel free to contact Tom Wasaff (703) 572-0268 if you have any questions or would like any additional information or documentation. Thank you, once again, for assisting the Airports Authority in its continuing efforts to preserve the historic resources of the Metropolitan Washington airports.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gregg M. Wollard', with a stylized, cursive script.

Gregg M. Wollard, P.E., A.A.E.  
Manager, Planning Department Engineering

GMW:

Attachment: Phase I Archaeological Survey – Management Summary

cc: Mr. Susan Stafford, FAA Washington, ADO  
Ms. Sarah Stokely, Advisory Council on Historic Preservation  
Mr. Henry Ward, WSP  
Ms. Liz Crowell, Fairfax County Park Authority  
Mr. Dan Gaindo, Loudoun County Department of Planning and Zoning

**STATEMENT OF CONCURRENCE**

As a certified representative of the Virginia State Historic Preservation Officer, I have reviewed the attached Phase I Archaeological Survey – Management Summary and concur with the following determinations related to the proposed Dulles Solar Development at Washington Dulles International Airport. By my signature, the Metropolitan Washington Airports Authority is authorized to proceed with project consultation following the process outlined below. Concurrence with this determination demonstrates the Airports Authority's continued compliance with the terms of the 1987 Programmatic Memorandum of Agreement (as regards Section 106 of the National Historic Preservation Act (36 CFR Part 800) and Section 4(f) of the Department of Transportation Act of 1966 (23 U.S.C. 138).

1. The Airports Authority initiated consultation with your office on the proposed development of an approximately 1,400-acre solar farm, Dulles Solar Project at Washington Dulles International Airport.
2. As noted during our initial consultation, a substantial portion of this area has been previously investigated in a comprehensive archaeological survey, which cleared the area of significant archaeological sites.
3. This area, comprising 1,079.2 acres, need not be surveyed again, and has been eliminated from the proposed investigation, leaving 329.0 acres to be investigated.
4. Based on revised development plans a portion in the southwest corner of the previous APE had been set aside as a future lease was eliminated from testing. The revised APE comprised 1,309 acres, and the investigation area decreased to 285.2 acres.
5. The Phase I archaeological survey of the Dulles Solar Project APE did not identify any new sites.
6. The recovery of one diagnostic artifact has helped refine the chronology of prehistoric site 44LD1088. Sites 44LD1087, 44LD1089, and 44LD1090 were also investigated but no significant new information was recovered.
7. The original recommendation for all the sites was that they were not eligible for the National Register since they lack integrity and information potential and those prior recommendation remain valid.
8. With only a few exceptions, the entire Dulles Solar Project area possesses little to no potential for archaeological resources based on severe soil deflation, resulting in the lack of a historic plow zone in many areas.
9. Consequently, no additional archaeological investigations are recommended, unless the project's Direct APE should increase to include unsurveyed areas.

Signature:

Date:

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Project Reviewer

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VDHR File Number

MANAGEMENT SUMMARY FOR  
PHASE I ARCHAEOLOGICAL SURVEY OF  
DULLES SOLAR PROJECT  
WASHINGTON DULLES INTERNATIONAL AIRPORT  
LOUDOUN COUNTY, VIRGINIA

VDHR PROJECT REVIEW FILE NUMBER 2020-0024

Prepared for  
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January 25, 2021

## **ABSTRACT**

The Metropolitan Washington Airports Authority (the Authority) is proposing to work with Dominion Power to develop a solar farm on approximately 1,408 acres of land at Dulles International Airport (IAD). Under the terms of the Authority's 1987 Programmatic Memorandum of Agreement, all projects on airport property must include an evaluation of potential impacts to historical and archaeological resources in compliance with the requirements of Section 106 of the National Historic Preservation Act (NHPA). The proposed solar farm area is situated in the southwest area of the airport in the South Outer Perimeter Area (SOPA). A substantial portion of this area, comprising a total of 1,079 acres, has been previously investigated in a comprehensive archaeological survey, which cleared the area of significant archaeological sites. The remaining area, comprising 329 acres was investigated in this Phase I Identification survey. No new sites were identified during the survey. Existing sites previously recorded within the investigated portion of the APE, including Sites 44LD1087, 44LD1088, and 44LD1089, and 44LD1090, were previously determined not eligible for the National Register of Historic Places (NRHP), and that determination stands. No further archaeological work is recommended for this project.

The Phase I testing commenced on Monday, September 7, 2020 and was completed on Monday, January 18, 2021. This management summary includes the results of the Phase I archaeological survey, and was completed as a task-order assignment to the Airports Authority's consultant, WSP USA, and its subconsultant, Elizabeth Anderson Comer / Archaeology, Inc. (EAC/A).

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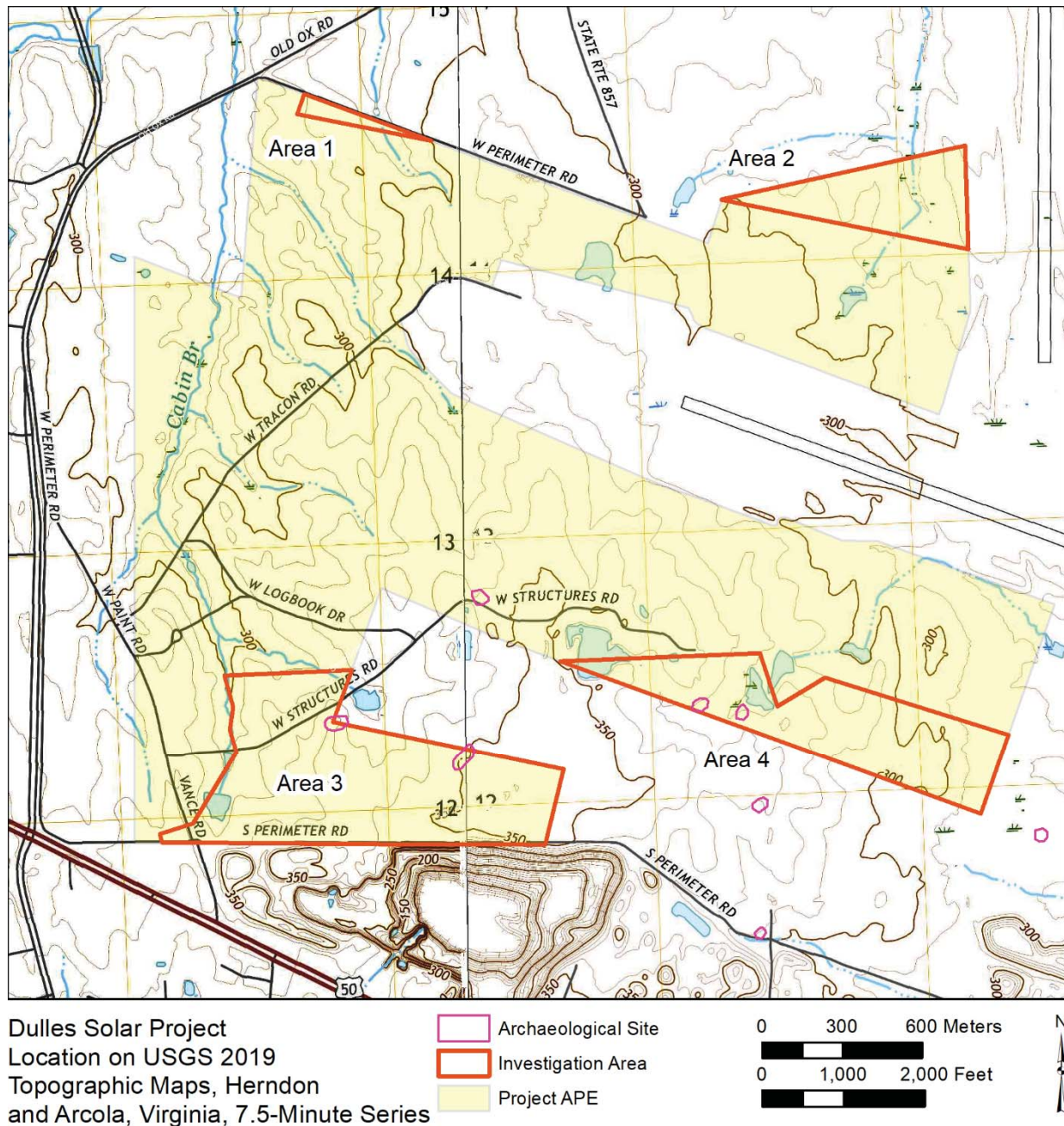
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# 1 INTRODUCTION

The Metropolitan Washington Airports Authority (the Authority) is proposing to develop a solar farm on approximately 1,400 acres of land at Dulles International Airport (IAD). The proposed solar farm area is situated in the southwest area of the airport (**Figure 1**).



**Figure 1: Project location on USGS Topographic Map**

Under the terms of the Authority's 1987 Programmatic Memorandum of Agreement, all projects on airport property must include an evaluation of potential impacts to historical and archaeological resources in compliance with the requirements of Section 106 of the National Historic Preservation Act (NHPA). This task assignment represents a full Phase I archaeological survey as well as support for an architectural resource survey to be conducted by the Authority's consultant. These tasks will be completed as a task-order assignment to the Authority's consultant, WSP, and its subconsultant, Elizabeth Anderson Comer / Archaeology, Inc. (EAC/A).

WSP received a KML file December 18, 2019 and determined the Direct Area of Potential Effect (Direct APE) for the proposed solar facility to be a total of 1,408.3 acres. A substantial portion of this has been previously investigated in five comprehensive archaeological surveys, which cleared these areas of significant archaeological sites (Butler et al. 2007; Deetz et al. 2013; Embrey et al. 2004; Goode et al. 2009; Parsons Management Consultants 1989). One site, 44LD1091, located in this area was determined Not Eligible for the National Register of Historic Places (NRHP). The five areas, comprising 1,079.2 acres, need not be surveyed again, and have been eliminated from the proposed investigation, leaving 329.0 acres to be investigated.

## 1.1 ORGANIZATION

This management summary is divided into seven sections and two appendices. An introduction and brief overview of the project is provided in **Section 1**. **Section 2** contains a generalized summary of the setting and land use in the Southern Outer Perimeter Area of IAD. Previous fieldwork in the vicinity is briefly discussed in **Section 3**. A description of the research design and field and laboratory methodology is provided in **Section 4**. **Section 5** contains a summary of completed fieldwork. **Section 6** provides an interpretive discussion with future recommendations for the project area. **Section 7** contains the bibliography, which is followed by two appendices. **Appendix A** includes resumés of the key personnel in the archaeological investigation; **Appendix B** is an inventory of artifacts recovered in this investigation.

## 1.2 STUDY PERSONNEL

Henry Ward, R.P.A. (WSP) served as the Supervising Archaeologist/Task Manager. Robert Wanner, R.P.A. (EAC/A) served as the Project Archaeologist and Joseph Clemens (EAC/A) served as crew chief. Background research was conducted by Robert Wanner of EAC/A. Fieldwork was carried out by Paul Albert, Patrick Kim, Augustus Kahl, Meredith Katz, Isobel Coats, Cassie Poell, Damian Koropecjy, Ryan Dees, and Avery Shurla of EAC/A. Artifacts were cataloged, analyzed, and photographed by Meredith Katz at EAC/A's archaeological laboratory at 2113 Saint Paul Street, Baltimore, Maryland. Patrick Kim and Robert Wanner provided GIS mapping and graphics for the management summary.

## 2 SETTING AND LAND USE

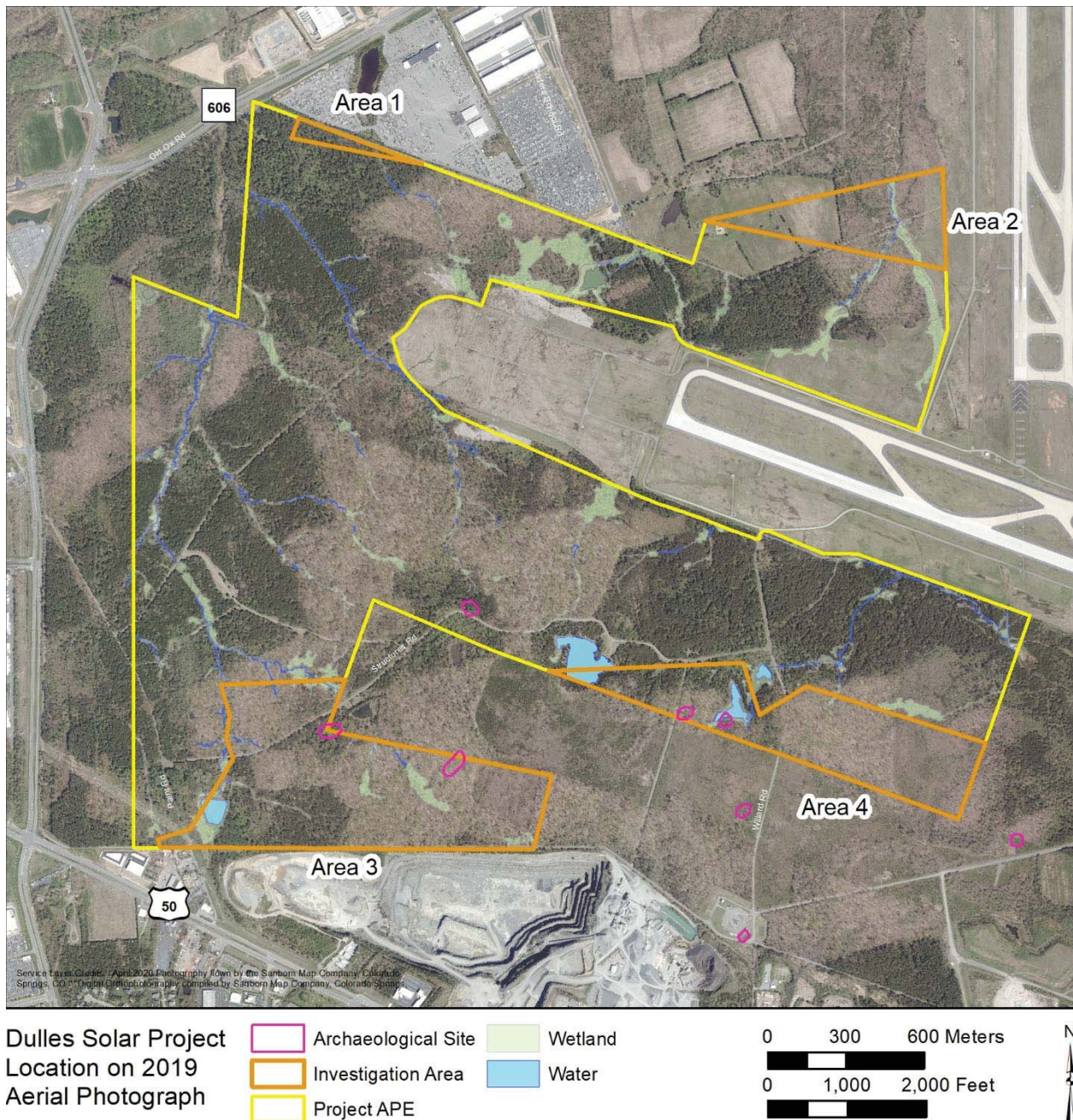
The Dulles Solar Project area is located within the South Outer Perimeter Area (SOPA) of IAD in Loudoun County, Virginia (**Figure 2**). The SOPA is airport property which falls between the IAD's property fence line and the Airport Operations Area fence line starting at Gate 233 on the east side, extending westward around the southern end of the airport, and ending on the west side of the Airport at the road running between Gate 306A and Gate 212. In general, the Direct APE is bounded on its south side by the Chantilly Crushed Stone, Inc. Quarry; on its west side by Loudoun County Parkway (VA-606); on its northwest side by Old Ox Road; on its northeast side by the Dulles Western Lands Area; and on its east side by Runways 12-30 and 01L-19R; and on its southeast side by Runway Road. Nearly all of the Direct APE is under tree cover.

For purposes of organizing the fieldwork, the four non-contiguous portions of the Direct APE that had not been previously subjected to archaeological investigation were assigned numerical values. Area 1 comprises a 4.9-acre triangular wooded area just to the south of W. Perimeter Road and the ADESA Washington DC complex. The terrain is generally gently sloping toward an intermittent stream feeding a tributary of Broad Run to the north, and ranges between 280 to 300 feet (85 to 91 meters) above mean sea level. The area is poorly drained.

Area 2 comprises a triangular 44.2-acre area just north of Runway 12-30. Approximately 13.8 acres of Area 2 consists of an open agricultural field with several dilapidated agricultural buildings still standing. Another 8.2 acres at the easternmost extremity of Area 3 is within an open airfield. This portion has been heavily graded and leveled to the point where it possesses little to no integrity. The remaining 22.2 acres of Area 3 is under tree cover. W. Perimeter Road runs through the southern portion of Area 3, oriented southeast-northwest. The elevation ranges between 280 and 300 feet (85 and 91 meters) above mean sea level, and the terrain slopes inward toward an intermittent stream draining into a tributary of Stallion Branch to the northeast.

Area 3 is an upland area situated in the southwest corner of the SOPA. The largest of the four investigated areas, the L-shaped area comprises a total area of 145.7 acres. The southern boundary of Area 3 is delineated by S. Outer Perimeter Road, and the Chantilly Crushed Stone Quarry is situated just beyond. Paint Road runs north-south through the western portion, and Structures Road runs southeast-northwest through the northern portion. A large (1.8-acre) manmade pond is situated along the western boundary of Area 3, and several acres around it are classified as wetlands. The remainder of Area 3 is mixed coniferous-deciduous forest. The elevation of the area ranges between 300 and 360 feet (91 to 110 meters) above mean sea level. The terrain gradually slopes upward from west to east, and forms a large plateau at its eastern extremity.





**Figure 2: Project location on 2019 aerial photograph**

Area 4 comprises the second largest of the four investigated areas, encompassing 90.4 acres. Striker Avenue runs north-south through the western portion of Area 4, and Willard Road runs north-south through the central portion. One large water-filled quarry pond is located at the western extremity of Area 4, and another smaller pond is located approximately 1,600 feet to the east of it between Striker Avenue and Willard Road. The smaller central pond drains into a tributary of Dead Run to the east. The area is entirely wooded with mixed coniferous-deciduous trees. The elevation

ranges between 280 and 350 feet (85 and 107 meters) above mean sea level, and the terrain gradually slopes upward from east to west.

Native vegetation observed in all four areas consists of mixed hardwoods including oak, hickory, and maple, along with Eastern red cedar and Virginia pine. Smaller shrubs and vines including poison ivy and mountain laurel comprise the forest understory. Fauna observed in the SOPA during fieldwork include turtles, turkeys, squirrels, raccoons, rabbits, skunks, hawks, and waterfowl.

## 2.1 GEOMORPHOLOGY

The Direct APE lies within the Culpeper Basin, part of the Piedmont regional physiographic province. The Culpeper Basin consists primarily of siltstone, sandstone, shale, hornfels, and diabase (Zen and Walker 2000:14). The sedimentary rocks of the basin were laid down in lakes associated with mudflats, and provide gently rolling land surfaces. Magma which forced its way through the surface about two hundred million years ago formed volcanic basalt within the sedimentary bedrock. In some instances, the magma cooled more slowly than basalt, forming diabase (gneiss) instead. Diabase is quarried in several nearby locations for regional road gravel and rip-rap (Goode, Embrey, et al. 2009:2). Hornfels was also formed when the magma thermally altered the silica and other minerals in the adjacent bedrock. In Northern Virginia, hornfels was quarried as a source for stone tools. Importantly, naturally-occurring quartz is present in this environment which was also likely exploited for stone tools.

The project area is also located within the Fall Zone, an area that extends for several miles on either side of the Fall Line, which is where the Piedmont Plateau Province descends steeply to the Coastal Plain (Edwards 1981). Before the arrival of Europeans, the Fall Line demarcated cultural boundaries between Piedmont and Coastal Plains populations, as evidenced in settlement patterns and material (Gallivan 2011; Potter 1993).

## 2.2 SOILS

The United States Department of Agriculture's (USDA) Web Soil Survey has mapped nearly the entirety of the Direct APE as Udorthents (Soil Survey Staff 2020). Udorthents usually signify that the original soil has been cut away and occasionally covered with fill material. The only exception is the northern area of Area 2, mostly coinciding with the agricultural field, where 30.9 acres of the 44.2-acre area contain other soils. These include:

- 18.5 acres of Ashburn silt loam: moderately deep and moderately well-drained formed in reworked alluvium;
- 5.7 acres of Albano silt loam: deep and poorly drained soil formed in local alluvium;
- 5.5 acres of Dulles silt loam: deep soils formed on level upland and concave lowlands;
- 0.6 acres of Bowmansville silt loam: a deep, poorly-drained soil found in recent alluvial deposits within floodplains;



- 0.6 acres of Sycoline-Kelly complex: moderately deep soils formed on upland sideslopes

## 2.3 HYDROLOGY

Several small tributaries drain the project area which flow into Cub Run to the east and Cabin Run to the west. The project area is sited on the dividing ridge between the Broad Run and Cub Run Watersheds, both of which are tributaries of the Potomac River. The Broad Run watershed covers 77.6 square miles (approximately 89,519 acres), 67.5 square miles of which are in Loudoun County, the remainder are in Fairfax County (Loudoun County 2020). The majority of the project area acreage lies within the Broad Run watershed which includes Stallion Branch and Cabin Branch. Cabin Branch is located to the west of the project area, and is fed by small drainages flowing from the uplands. It flows directly into the South Fork Broad Run.

Stallion Branch is a tributary of Horsepen Run. Horsepen Run originates in Fairfax County and has a watershed of 23.5 square miles. Its tributaries include, in addition to Stallion Branch, Cedar Run and Frying Pan Branch, as well as several smaller streams. Stallion Branch joins Horsepen Run at the northern end of the IAD. The two flow into Horsepen Lake, a storm water retention pond created by a human-made dam north of the confluence of the two streams. Water discharging from the pond joins the South Fork Broad Run to form Broad Run. Broad Run then flows northeast to its mouth at the Potomac near the southern end of Seldon's Island, about 16 kilometers (10 miles) southeast of Leesburg, Virginia.

The Cub Run watershed covers 52.8 square miles, 14 square miles of which is in Loudoun County. Two small streams, whose headwaters are on the southern edge of IAD, are tributaries of Cub Run: Sand Run and Dead Run. Very little of either of these streams is on the IAD property. Cub Run drains into Bull Run, which in turn empties into the Occoquan River at the reservoir (Loudoun County Government n.d.). The mouth of the Occoquan River is at Occoquan Bay, which drains into the Potomac River.

The Potomac River is the fourth largest river along the Atlantic coast of the United States and is divided into two branches. The source of the North Branch is at Fairfax Stone at the junction of Grant, Tucker, and Preston Counties, West Virginia. The source of the South Branch is in northern Highland County, Virginia. After leaving Highland County this branch flows into West Virginia and converges with the North Branch east of Green Spring in Hampshire County, West Virginia to form the Potomac River. After leaving West Virginia, the Potomac River flows along the borders of the following Virginia counties (from west to east): Loudoun, Fairfax, Arlington, Prince William, Stafford, King George, Westmoreland, and Northumberland, before flowing into the Chesapeake Bay. The river's watershed includes parts of the states of Virginia, West Virginia and Maryland, and all of the District of Columbia. It is approximately 616 kilometers (383 miles) long, with a drainage area of about 38,000 square kilometers (14,670 square miles).

### **3 RESOURCES IN THE DIRECT APE AND PROJECT VICINITY**

A total of five archaeological sites have been previously recorded within the project APE. The current investigation areas overlap with four out of five of these sites. All five sites were all identified in a 2004 Phase I investigation of the proposed location of the Crosswind Runway (Embrey et al. 2004). This investigation covered an APE of approximately 1,162.5 acres, and overlaps with the current APE for the Dulles Solar Project. This overlap was identified and testing was adjusted (see **Section 5.3**). Several sites were identified, but none of the sites identified within the current APE were recommended for the National Register. Sites 44LD1087, 44LD1088, 44LD1089, and 44LD1090 are discussed in more detail in the relevant sections below.

Site 44LD1091 was also recorded within the Dulles Solar APE, but to the north of the Area 4 and thus outside of the area of investigation. Site 44LD1091 was identified based on six positive STPs which generated decorated glass, one ironstone rim fragment, miscellaneous metal objects, six pieces of flat glass, and one embossed glass fragment. The U.S. Coast and Geodetic Survey (USCGS) map of the site, ca. 1957-1958, shows a small farmstead located in the vicinity. There was heavy machine disturbance throughout the area. The site was not recommended as eligible for the National Register.

## **4 RESEARCH DESIGN AND METHODOLOGY**

### **4.1 PURPOSE**

A Phase I Identification Survey, or Reconnaissance Level survey, is meant to identify an archaeological site within a specified study area and to provide a preliminary assessment of a site's integrity, horizontal boundaries, and, if possible, its data potential in terms of National Register criteria.

### **4.2 BACKGROUND RESEARCH**

EAC/A completed a review of environmental, cultural resource, historic, and other background information in order to determine the types of potential archaeological remains which might be present. Background information was gathered using maps and atlases, published county histories, aerial photographs, and previous historic and archaeological surveys completed for the Authority and other groups. Digital copies of aerial photographs and historic mapping located during the course of archival research was integrated into ArcGIS in order to determine what areas of the proposed solar farm possessed higher or lower potential for the location of cultural resources. Other online resources that were consulted include digital academic journals for information on sites that are expected in the study area, online repositories of historic photographs of the study area, the USDA Web Soil Survey, USGS topoView, and USGS EarthExplorer.

Because several comprehensive surveys have now taken place within and adjacent to the proposed area of the solar farm, background research undertaken prior to the fieldwork focused specifically on the development of a highly localized model for prehistoric and historic archaeological resources. Analysis of past land use allowed EAC/A to make a case to eliminate large areas of the Direct APE from subsurface testing due to possessing no potential, and increase the testing interval for others due to very low potential. Several portions of the Direct APE have been subjected to grading, construction and demolition, infilling, installation of buried utilities or other structures, or other episodes of significant disturbance, those areas will be mapped, described, and eliminated from subsurface testing. These decisions were made in consultation with VDHR after the background research conducted and field observations confirmed significant disturbance.

### 4.3 FIELD INVESTIGATIONS

Prior to excavation, a grid of pin flags at appropriate intervals was set in to signify STP locations. These locations were mapped with the use of a Nikon Total Station and supplemented by an Emlid Global Navigation Satellite System (GNSS) receiver. The datum (point 0,0) for the entire survey grid was set at an existing benchmark, CHANT AP 5A, located at the following coordinates using the 1983 North American Datum (NAD83): latitude 38° 55' 43.82654", longitude -77° 29' 29.38435", elevation 331 feet (101 meters). All regular-interval STPs were labeled according to their northing and easting in relation to this point.

A total of 12.38 acres of the 285.22 acres was classified as wetlands during the WSP environmental survey. These areas were examined for artifacts and features, but no subsurface testing was undertaken within these wetland areas. Large manmade ponds occupy a total of 5.0 acres within these areas; and 0.4 acres is occupied by streams. A total of 2.5 acres of these areas are covered by paved roads. These areas were not subjected to any subsurface testing. Wetlands were, however, inspected for any artifacts or features.

The remaining land was tested by circular shovel test pits (STPs), at least 38.5 centimeters in diameter. All STPs were manually excavated utilizing shovels and trowels, and all soils containing cultural material shall be screened through ¼-inch (0.635-centimeter) mesh. All STPs were excavated 10 centimeters into sterile if possible, but not more than 75 centimeters below the surface, the maximum depth at which the soil profile is accessible and visible.

All STPs were initially set out in a 15-meter grid, except within the 13.8 acres of agricultural field in Area 2. Previous work in the fields immediately to the north of the Direct APE in 2015 by EAC/A staff determined that little to no intact stratigraphy remained, and no sites were discovered in this area. For sites that were located in the fields that were surveyed further to the north, artifacts were preserved mainly on the surface, and were recovered from the plow zone in much smaller quantities. Surface inspection of the field in Area 2 did not yield any historic or prehistoric artifacts. Because potential was low here, testing was conducted at 30-meter intervals within the field.



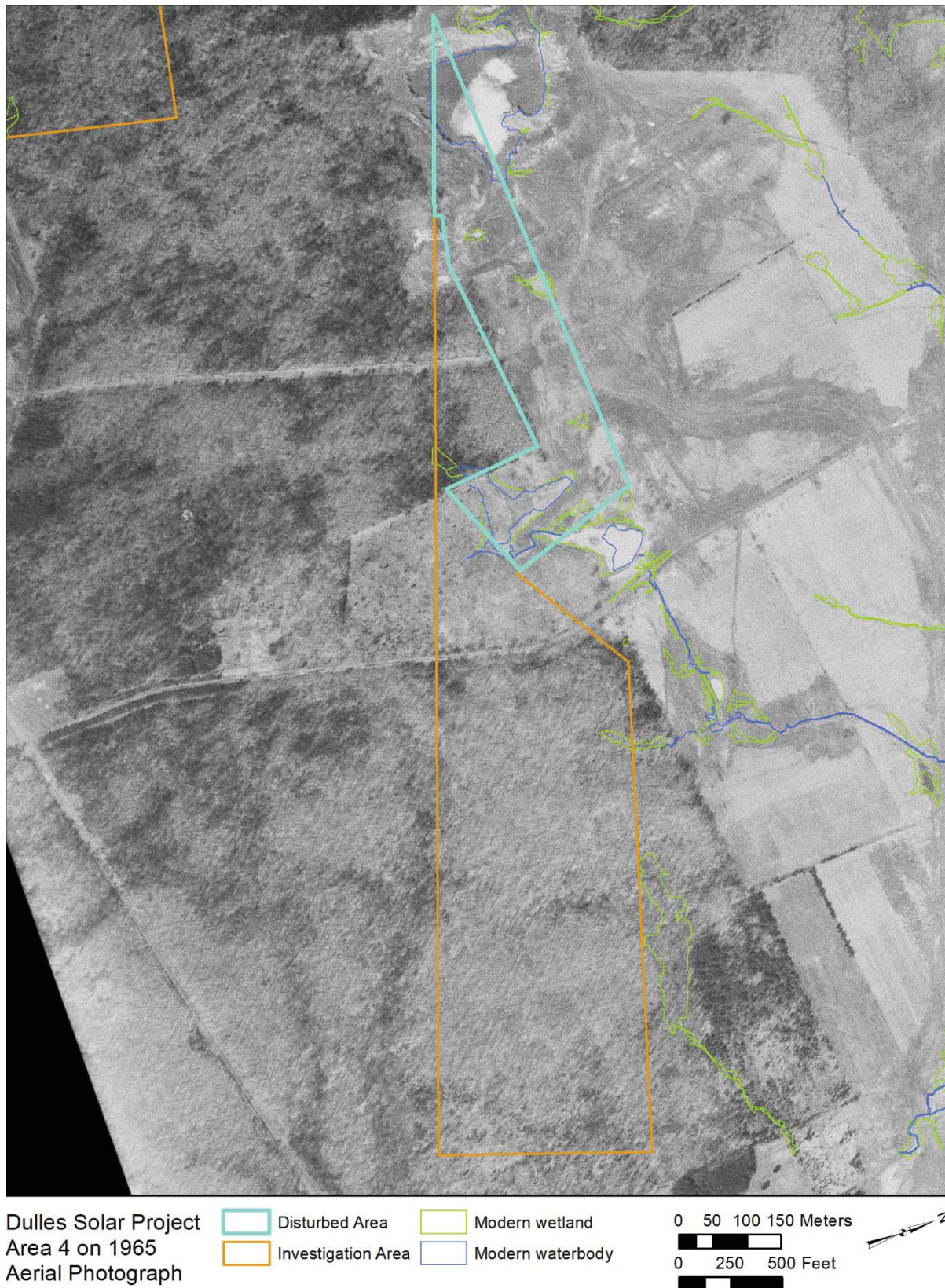
In laying out the STP grid in other areas of the Direct APE, EAC/A noted other portions where a greater interval was justified. One portion of the western end of Area 4 was subjected to substantial disturbance in the 1960s (**Figure 3**). An aerial photograph indicates that some small residences and farms were located in this area, and some surface debris were visible in the field. However, observations of push-piles and deflated stratigraphy along with the photographic evidence suggested that nothing remained of these residences. Instead of writing this area off completely, since houses were noted here, the crew utilized an extended 30-meter interval in this area.

Upon testing the eastern third of the Area 3 at 15-meter intervals, it was apparent that the soil profile was so deflated in some areas that it also justified an extended 30-meter interval. These areas were characterized by evidence of logging activity, including large logs and stumps that had been cut with chainsaws, deep tire ruts, and uniformly planted saplings. These areas were poorly drained, and the soil column consisted of a very shallow topsoil layer (approximately five to 10 centimeters) sitting directly over the B-horizon, and in some cases, the C-horizon. One of these portions was located in the northeast of Area 3; and another comprised nearly the entire western half of Area 3. Portions in the vicinity of recorded sites and former locations of houses (based on historic aerial photographs) were tested at 15-meter intervals even if they were located in these areas of low potential.

If significant artifacts were recovered from cultural features identified in an STP, additional radial STPs were placed around the positive STP at reduced, 7.5-meter intervals in order to delineate the extent of the archaeological remains.

Recently-deposited surface debris were encountered along the roads and at the edges of fields in the survey of the Western Lands Area. In general, EAC/A did not collect debris from the surface; it normally signifies modern dumping. For artifacts recovered from subsurface contexts, it was considered acceptable to dispose of certain twentieth or twenty-first century debris (i.e., less than 50 years old), including non-diagnostic clear or brown bottle glass, wrappers, soda cans, paper products, foil, balloons, and clothing in the field. These items tend to provide redundant information and take up valuable space in the collection, in addition to valuable time to process in the lab. EAC/A followed a VDHR-approved field discard policy that was initially outlined in the Western Lands Area survey.

The VDHR does not accept large quantities of bulk artifacts such as brick rubble for curation. While procedures were set forth for the additional culling of bulk artifacts recovered from STPs in non-site locations, no such large quantities of bulk artifacts were located in the entire survey.



All significant artifacts were placed in paper bags, which were labeled using indelible marker with all provenience information. Data from each bag were recorded on a daily bag inventory. Each STP was recorded on a standardized individual form, which included information regarding the soil texture and color of excavated sediments, inclusions, depth of any cultural materials recovered, and any soil disturbance present. Daily field notes and excavation information was kept by the Crew Chief.

Digital photographs of field conditions and representative test pit profiles were taken. A detailed photographic log containing information of the subject, location, direction of view, date, and photographer was kept continually updated.

#### **4.4 LABORATORY PROCESSING / DATA ANALYSIS**

All artifact processing, analysis, and short-term curation procedures follow the standards outlined in the appropriate State and Federal guidelines. All recovered artifacts from completed STPs were transported to the laboratory facilities of EAC/A in Baltimore. During laboratory processing, all artifacts were cleaned and marked appropriately, and were identified and catalogued in a provenience-linked designation system according to VDHR standards. To catalog artifacts, EAC/A utilized a slight variation of the Sonoma Historic Artifact Research Database (SHARD) developed by the Anthropological Studies Center (ASC) at Sonoma State University specifically for sites dating from the mid-nineteenth century to early twentieth century. This system categorizes artifacts by Group, Category, Type, and Description, allowing for several different, cross-cutting levels of analysis (ASC 2008). Variations in the EAC/A system include the addition of prehistoric categories, which have no precedent in SHARD.

Customarily, recovered artifacts are returned to the state repository for retention. However, the chief curator for the Virginia state archaeology department stated that due to the ineligibility of archaeological sites 44LD1088 and 44LD1089, the artifacts recovered do not need to be retained at the state repository. Unless MWAA expresses interest in retaining them, the artifacts will be discarded.

### **5 RESULTS OF FIELD INVESTIGATION**

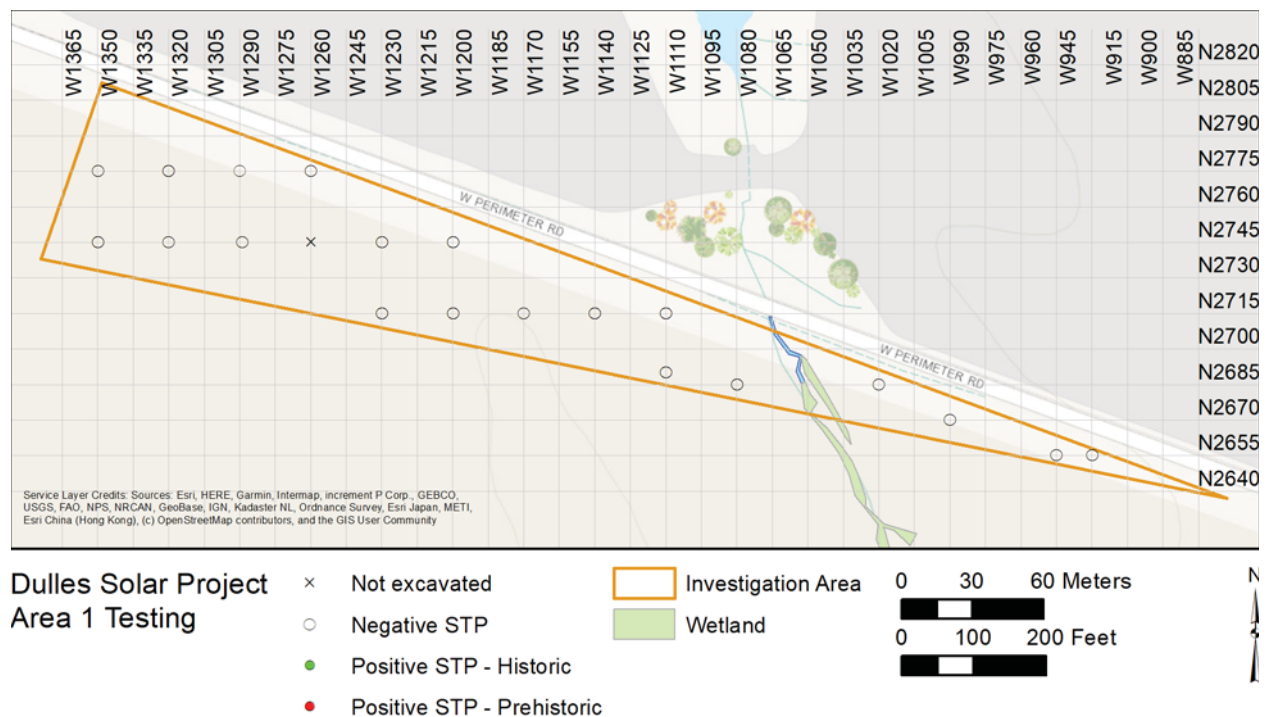
This section begins with a brief explanation of the overall results of each survey area of the Phase I investigation. Following this is an explanation of each of the four previously-identified sites which were investigated in the survey, including a background for historic sites, survey results, and artifact descriptions and analyses.



## 5.1 AREA 1

A total of 21 STPs were planned in Area 1, which comprises a 4.9-acre wooded area just to the south of W. Perimeter Road and the ADESA Washington DC complex (**Figure 4**). While only a small portion of Area 1 was classified as wetlands and waterbodies (less than 0.04 acres), the entire area appeared waterlogged and poorly drained during fieldwork, with standing water visible in many portions (**Figure 5**). Upon initial subsurface testing, it was found that the plow zone was lacking, or in some cases was present but very thin (less than 10 centimeters). Because these conditions indicated that the area had extremely low potential, and in some cases no potential, for archaeological resources, the testing interval was increased to 30 meters. One planned STP was not excavated due to the presence of standing water.

The stratigraphy in this area consisted of a thin topsoil, brown (7.5YR 4/4) to dark brown (7.5YR 3/2, 3/3) in color and silt loam in texture. Its thickness varied from one to 17 centimeters, and it was frequently moist. The plow zone was not present in several STPs in this area, but where it was it consisted of a brown (7.5YR 4/3, 5/4) silty clay loam, six to eight centimeters in thickness with occasional iron staining. The subsoil primarily consisted of a brown (7.5YR 4/6, 5/4) to strong brown (7.5YR 5/6) silty clay loam with iron staining. STPs N2715W1170 and N2685W1020 exhibited a reddish brown (5YR 4/4) silty clay subsoil; and a light brown (7.5YR 6/4) silty clay loam with large quantities of bedrock (approximately 70 percent) was present at the bottom of N2685W1080.



**Figure 4: Results for Area 1**



**Figure 5: Photograph of poor drainage in Area 1, facing north**

No artifacts were recovered from any of the STPs, nor were any identified on the surface within Area 1.

## **5.2 AREA 2**

A total of 262 STPs were planned in Area 2, which comprises a 44.2-acre area north of Runway 12-30, but a total of 261 were excavated (**Figure 6**). Approximately 13.8 acres of Area 2 consists of an open agricultural field with several dilapidated agricultural buildings still standing. These buildings, consisting of one barn, two silos, and one collapsed metal storage building, were of sufficient size and number to warrant a previous architectural evaluation in December of 2016 (as 053-6425). The property was determined not eligible for the National Register because it does not have historic or architectural significance.

This area was tested at 30-meter intervals for reasons outlined in **Section 4.3**. Another 8.2 acres at the easternmost extremity of Area 3 is within an open airfield. This portion has been heavily graded and leveled to the point where it possesses little to no integrity. Because of disturbance documented in historic aerial photographs and also in the field, this area was eliminated from testing. Five planned STPs were not excavated due to standing water, and four additional radials were excavated around one STP positive for prehistoric artifacts.

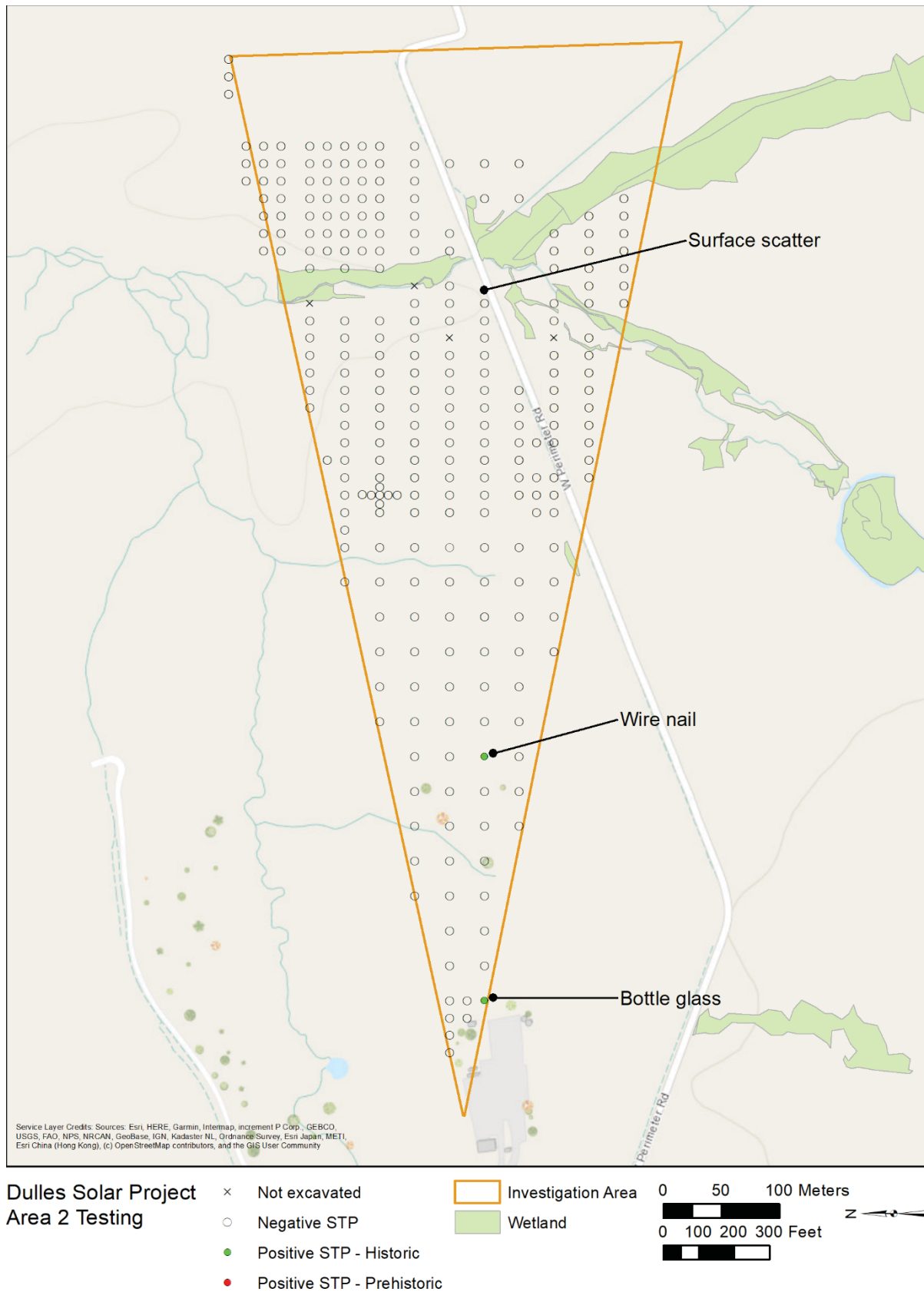


Figure 6: Results for Area 2



A total of 68 STPs were excavated in the open agricultural field. Previous work immediately to the north in 2015 indicated that much of the historic plow zone had been repeatedly stripped for cultivation, sod farming, and cattle grazing, and that little potential for sites existed except as surface scatters (Ward et al. 2016). As such, STPs were excavated at regular 15-meter intervals in the field only near to the farm outbuildings. For the remainder of the testing in the field, a 30-meter interval was utilized. Crew carefully examined the surface of the field as they were working for surface finds, but none were recorded.

Within the field, the plow zone in general consisted of a dark yellowish brown (10YR 4/6) silty clay loam, frequently containing gravel and cobbles, and generally 10 to 30 centimeters in thickness. Both artifacts that were recovered in the field area were recovered from this plow zone. Beneath the plow zone in several STPs, the Bt-horizon was present, consisting of a yellowish brown (10YR 5/6) or strong brown (7.5YR 5/6) clay loam with frequent siltstone from the underlying parent material. Under this was red (2.5YR 4/6) or reddish brown (5YR 4/6) clay, comprising the 2Bt-horizon.

The only two artifacts recovered in the field were one fragment of clear bottle glass, retrieved from the plow zone of STP N2400E315; and one wire nail recovered from the plow zone of STP N2400E525, adjacent to an old fence line (**Figure 7**). The lack of artifacts both on the surface and within the plow zone was quite remarkable given the proximity of the agricultural outbuildings and old fence lines. Because both artifacts appear to have been recent deposits within the plow zone, no radial STPs were excavated. The two artifacts do not constitute an archaeological site.

Within the tree line at the east end of Area 2, a total of 193 STPs were excavated. The stratigraphy exhibited a topsoil consisting of a dark brown (10YR 3/3) silt loam, approximately two to 10 centimeters in thickness. Beneath the topsoil, a plow zone was present that varied from west to east, reflecting differences in soil types mapped in the USDA soil survey. Areas mapped as Ashburn silt loams, along the eastern and western edges of the wooded area, exhibited a yellowish brown (10YR 5/6) to dark yellowish brown (10YR 4/4) silty clay loam, generally 15 centimeters in thickness. In some cases, iron staining was visible. In areas within the middle of the wooded area, the plow zone, where it was present, was generally a strong brown (7.5YR 5/6) clay loam, and generally was deeper – as much as 32 centimeters beneath the surface. In the southern area, a grayish brown (10YR 5/2) silty clay loam was also present beneath the topsoil. The subsoil (Bt-horizon) throughout the entire wooded area was represented by a strong brown (7.5YR 5/6) clay loam, frequently included degraded siltstone.

While no artifacts were recovered from the STPs within the wooded portion of Area 3, STP N2490E750 generated one quartz cobble in its plow zone. Once the cobble was cleaned, it was determined that it did not exhibit any signs of modification. However, precautionary radials were excavated around the STP.



**Figure 7: Photograph of old fence line adjacent to STP 2400E525, facing south**

In addition, a scatter of historic artifacts was recorded on the surface near STP N2400E915 (**Figure 8**). This surface scatter included beer cans, a crock, a bucket, gas cans, tires, glass bottles, and scrap metal. One nickel minted in 1975 was recovered from here. The STPs excavated in the vicinity were all negative, and so it seems that there is no subsurface component to this.

The open field to the east of the wooded area was heavily disturbed based on an analysis of historic aerial photographs and Lidar-derived surface modeling. Visual inspection confirmed extensive grading in this area in the field. As such, no STPs were excavated in this area.





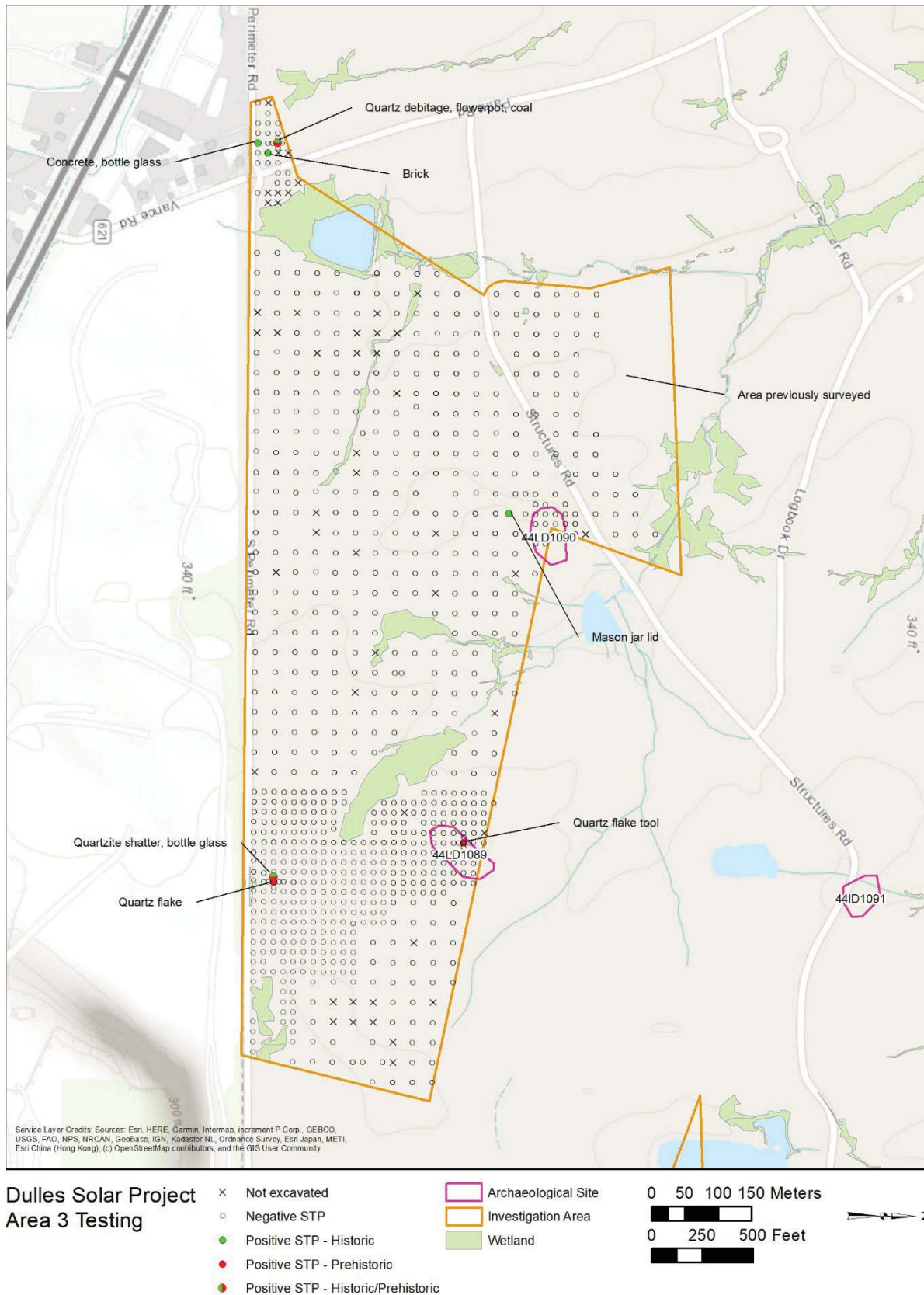
**Figure 8: Photograph of surface scatter near STP N2400E915, facing northeast**

### **5.3 AREA 3**

Area 3 is an upland area situated in the southwest corner of the SOPA. The largest of the four investigated areas, the L-shaped area comprises a total area of 145.7 acres (**Figure 9**). The southern boundary of Area 3 is delineated by S. Outer Perimeter Road, and the Chantilly Crushed Stone Quarry is situated just beyond. Paint Road runs north-south through the western portion, and Structures Road runs southeast-northwest through the northern portion. A large (1.8-acre) water-filled quarry is situated along the western boundary of Area 3, and several acres around it are classified as wetlands. The remainder of Area 3 is mixed coniferous-deciduous forest. Coniferous trees dominate the western portion of the area. The elevation of the area ranges between 300 and 360 feet (91 to 110 meters) above mean sea level. The terrain gradually slopes upward from west to east, and forms a large plateau at its eastern extremity.

A total of 977 STPs was planned in Area 3. A total of 62 planned STPs were not excavated due to obvious disturbance, standing water, inaccessibility, or hazardous conditions. A total of 12 additional radial STPs were excavated around three positive STPs with significant finds.





Testing throughout Area 3 confirmed that the soil column had been severely truncated. This was particularly pronounced in the northeast corner of Area 3, where dense coniferous tree stands were present. Evidence for historic logging was visible, with numerous logs cut with chainsaws and left in place, stumps, and deep tire ruts. As work progressed westward, it was determined that historic plow zone was either a few centimeters in thickness or completely absent throughout most of Area 3. As such, the testing interval was adjusted to 30 meters in these areas. Where previous sites had been detected, or where there was evidence of historic structures based on aerial photographs, the testing interval was reduced back down to 15 meters.

In addition, it was determined that a significant portion of Area 3 to the north of Structures Road had been previously tested in the 2004 Phase I study, although this area had not been indicated as such in V-CRIS during the project planning stages (Embrey et al. 2004). No sites were detected in the previous study, and as such, the area was eliminated from testing.

The topsoil throughout Area 3 consisted of a dark brown (10YR 3/3) silt loam, five to 15 centimeters in thickness. The plow zone, where it was present, consisted of a brown (10YR 5/3) silty clay loam, approximately five centimeters in thickness. The subsoil generally consisted of a light yellowish brown (10YR 6/4) or yellowish brown (10YR 5/6) silty clay loam. Subsoil in many portions of Area 3 sat directly underneath the topsoil.

Several isolated finds were recovered in Area 3. One quartz flake was recovered from STP N45W705 at the bottom of the plow zone, which was two centimeters in thickness in this location. Four radial STPs were excavated in the cardinal directions at 7.5-meter intervals around this positive STP. All were negative except for the western radial, which generated one fragment of bottle glass and one quartz shatter from the interface between the topsoil and the subsoil (the plow zone was not present). Other surrounding STPs had no plow zone present.

STP N405W1260 generated one glass canning jar lid liner in the topsoil. This STP was offset 10 meters to the south due to a large tree fall to the north now covered in dense vegetation in the original planned location. The topsoil was 15 centimeters in thickness, consisting of a dark brown (10YR 3/3) silt loam with angular siltstone. Beneath this was the subsoil – a yellowish brown (10YR 5/6) silty clay loam with 20 percent angular siltstone. The soil was well-drained in this location, which was uncharacteristic of the surrounding area, but the soil had clearly been disturbed since parent material was present in the topsoil. No radials were excavated in this location.

At the extreme western end of Area 3, to the west of Paint Road, artifacts were recovered from three STPs. This area was of particular concern given the proximity to historic housing to the south. Concrete and glass were recovered from Stratum II in STP N15W1815. Stratum II consisted of a yellowish brown (10YR 5/4) silty clay loam with concrete and asphalt inclusions, situated directly beneath the topsoil. Given the clear association with road demolition, no radials were excavated around this STP. The same stratigraphy was observed in STP N30W1800 where brick was recovered from the same stratum.

STP N45W1815 generated four artifacts from Stratum II: quartz shatter, a quartz flake, a fragment of flowerpot, and one fragment of bituminous coal. Stratum II in this STP appeared more like the intact plow zone that was present in other parts of Area 3: a brown (10YR 5/3) silt loam, seven centimeters in thickness. As such, four radial STPs were excavated around STP N45W1815 in the cardinal directions. Although the intact plow zone appeared in the radial STPs, each one was negative. As such, these artifacts were interpreted as isolated finds.

Two previously-identified sites were also investigated and are discussed in more detail below.

### **5.3.1 Site 44LD1089**

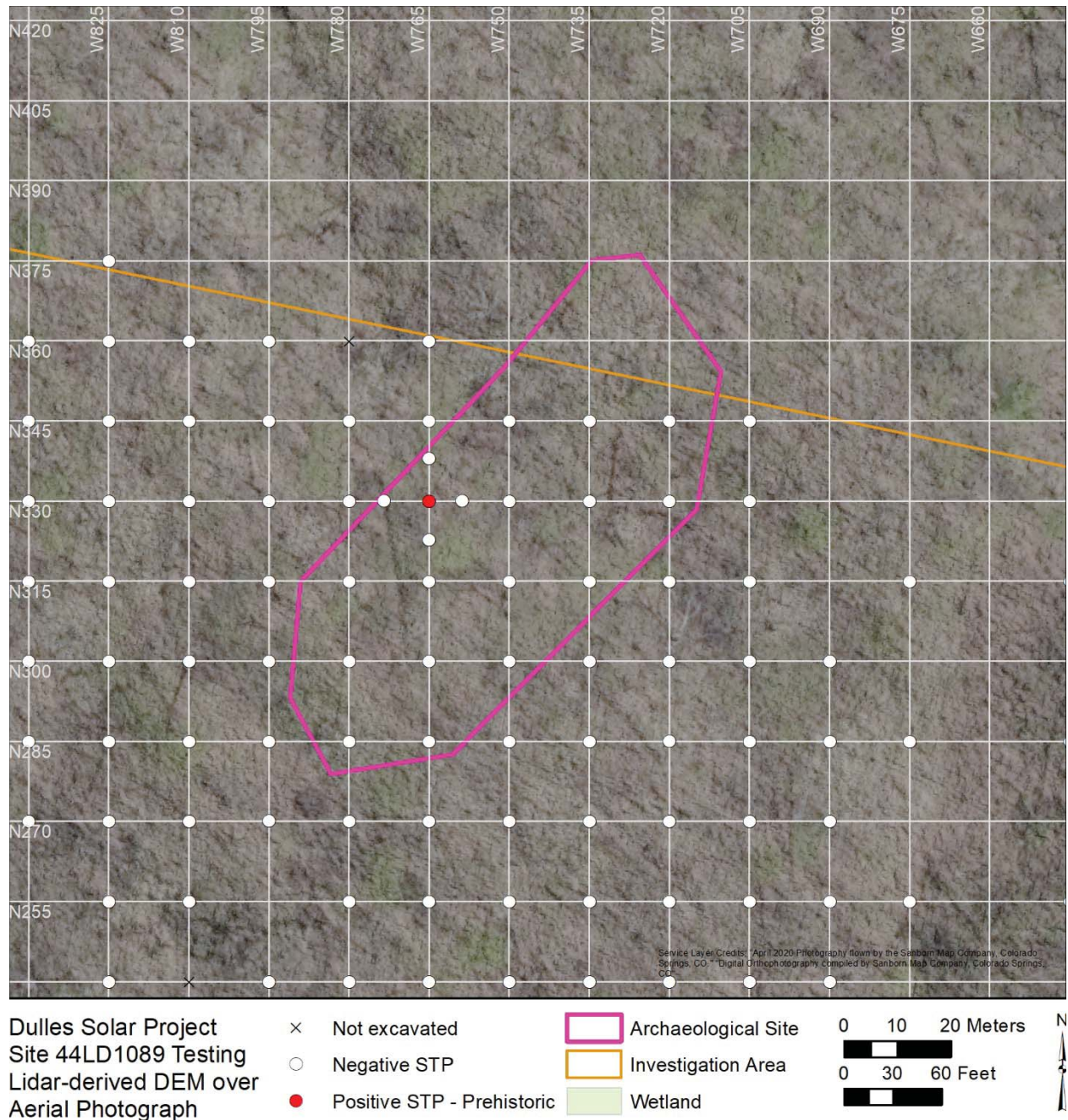
Site 44LD1089 has been interpreted as an Early Archaic temporary camp site located on a terrace above an old streambed. The site was identified in 2003 via shovel testing for the Crosswinds Runway (Embrey et al. 2004:193). Seven STPs generated two rhyolite flakes, two quartz flakes, fire-cracked rock, and a chert Palmer Corner-Notched projectile point. Because the artifacts within the site were widely dispersed and few in number, the site was determined not eligible for the National Register.

A total of 16 STPs at 15-meter intervals were excavated within the boundaries of Site 44LD1089 (**Figure 10**). In general, the stratigraphy was similar to everywhere else in Area 3, although on average the plow zone was thicker (between two and 12 centimeters). One quartz flake tool was recovered from the plow zone in STP N330W765. Four radials were excavated at 7.5-meter intervals in each of the cardinal directions. Each one was negative. No other artifacts were recovered.

### **5.3.2 Site 44LD1090**

Site 44LD1090 is a multi-component site which comprises a nineteenth- and twentieth century domestic site and a prehistoric lithic scatter on a hilltop. The site was identified in 2003 via shovel testing for the Crosswinds Runway (Embrey et al. 2004:193-194). At the time of the original survey, a flower garden was visible. A total of 19 STPs generated 73 historic artifacts and three prehistoric artifacts. The historic artifacts included domestic ceramics, bottle glass, window glass, cut and wire nails, roofing slate, bricks, and oyster shell; and the prehistoric artifacts consisted of one quartz flake and two rhyolite flakes. The site coincides with the location of a historic dwelling and two associated farm buildings known from a ca. 1957/1958 map of the site. The site was highly disturbed and lacked any structural features. As it could yield little important additional information, the site was determined not eligible for the National Register.

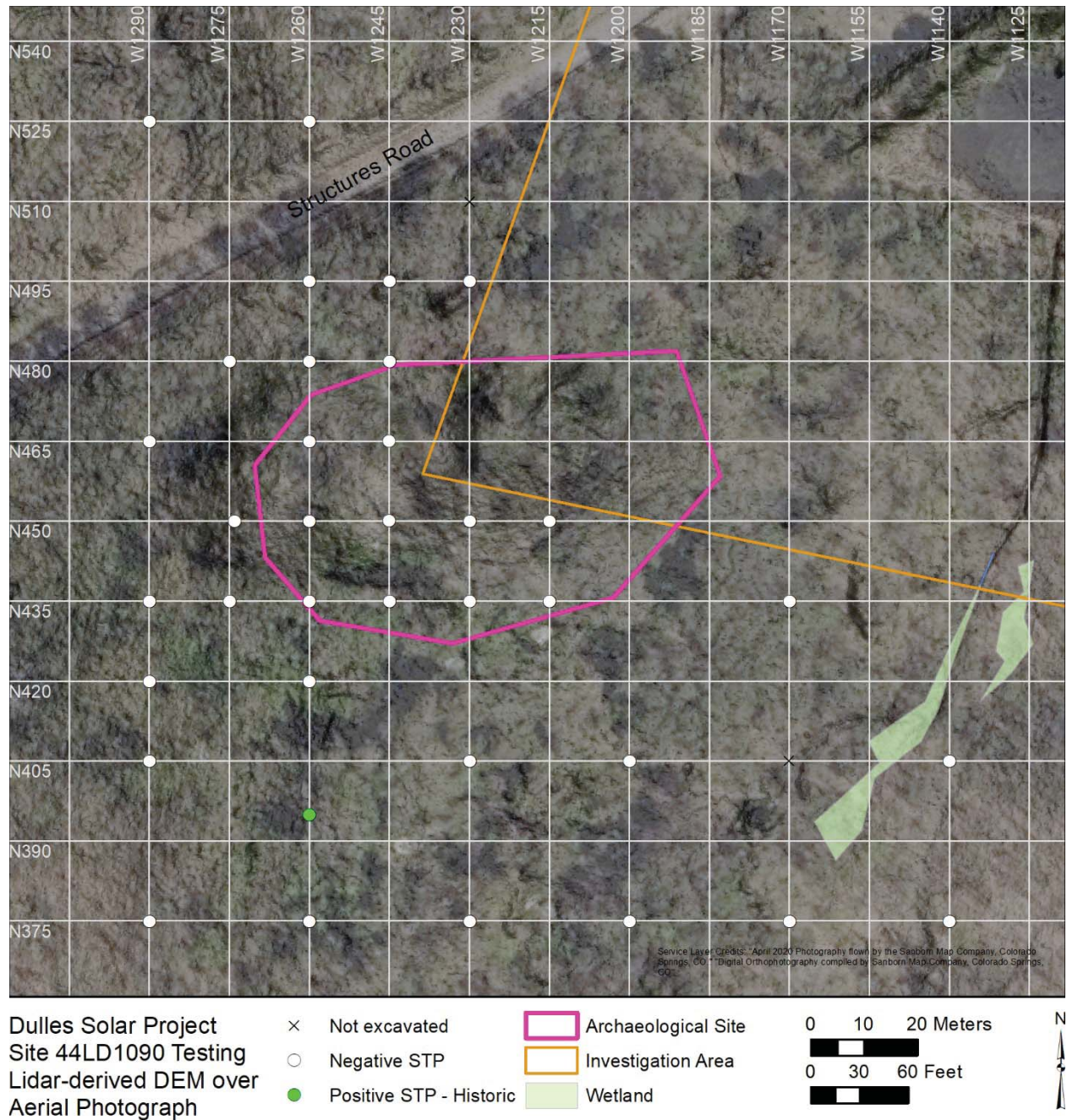




**Figure 10: Site 44LD1089 testing**

A total of 11 STPs were excavated within the site boundary for Site 44LD1090 (**Figure 11**). No artifacts were recovered and the test pits revealed extensive disturbance from demolition and earth-moving. Beneath a shallow brown (10YR 4/3) or dark brown (10YR 3/3) loam topsoil, a variety of different soils were present: a light yellowish brown (10YR 6/4) silt loam, a light olive brown (2.5Y 5/3) loamy sand, and a brown (10YR 5/3) coarse sandy loam with 25 to 30 percent gravel. Beneath these disturbed layers, which ranged between eight and 16 centimeters in thickness, was natural subsoil. The area was carefully inspected for surface finds as well, but none were identified.





**Figure 11: Site 44LD1090 testing**

## 5.4 AREA 4

Area 4 encompasses 90.4 acres of wooded area with two manmade ponds – one at the western extremity, and another smaller one to the east of it between Striker Avenue and Willard Road (**Figure 12**). A total 1,214 STPs were initially planned in Area 4; and total of 1,157 STPs were actually excavated. Several STPs were not excavated at the eastern extremity of Area 4 because the testing interval was increased to 30 meters. This was due to evidence of extensive logging on the surface as well as extremely deflated soil columns observed in several consecutive transects.

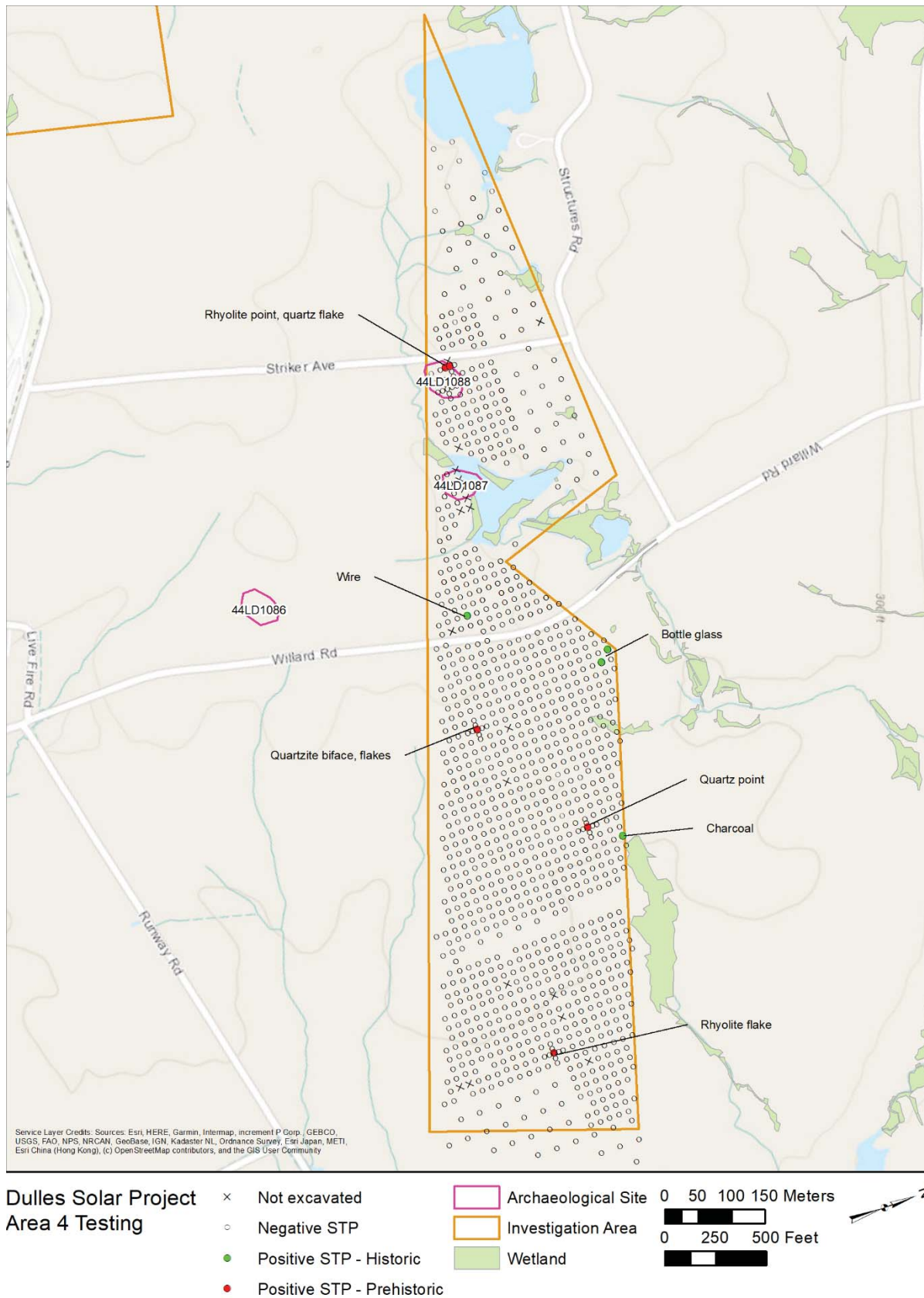


Figure 12: Results for Area 4



A total of 15 STPs were not excavated for due to field conditions, such as standing water, or personal safety concerns, including the presence of ground hornets, red ants, animal burrows, and poison ivy patches. A total of 14 radial STPs were excavated at shorter 7.5-meter intervals when significant artifacts were recovered from subsurface contexts.

The stratigraphy throughout Area 4 consisted of a topsoil, plow zone, and subsoil. A thin A-horizon (five to 10 centimeters) was present throughout, usually a dark brown (10YR 3/3) loam or silt loam. Most artifacts that were recovered in this area were recovered from the topsoil, or at the interface between the topsoil and the AB-horizon beneath it. Beneath the topsoil was generally a dark yellowish brown (10YR 4/4) silty clay loam or a yellowish brown (10YR 5/4) silty clay loam plow zone, approximately 20 centimeters in thickness, frequently containing natural cobbles and gravels, and occasionally featuring iron and manganese staining. Beneath this was the Bt-horizon, which generally comprised a strong brown (7.5YR 5/6) to yellowish brown (10YR 5/4, 5/6) silty clay loam, frequently containing gravel and featuring iron stains.

Throughout Area 4, numerous deviances from this general soil pattern were observed. For example, both the Ap-horizon and the Bt-horizon in the western portion of Area 3 contained more clay and was light olive brown (2.5Y 5/3, 5/4, 5/6) in color.

Several STPs generated prehistoric isolated finds. At the eastern end of Area 4, Stratum II STP N330E1140 generated a single rhyolite flake. Stratum II, or the plow zone, in this location consisted of a brown (7.5YR 4/4) loam, six centimeters in thickness. Immediately beneath was a brown (7.5YR 5/4) silt loam B-horizon with iron staining. Four radial STPs were excavated around the positive STP, one in each direction. The stratigraphy was identical, but no additional artifacts were recovered.

Stratum II of STP N495E840 generated a quartz projectile point (**Figure 13**). The base form of the point, and hence the point's type, are uncertain. One side of the base appears to exhibit a contracting stem, while the other appears to be corner-notched. The intention of the tool manufacturer, and the effects of the plow are indeterminate, but the point likely dates from the Middle Archaic to the Middle Woodland Periods. The STP exhibited a shallow (six-centimeter) topsoil of very dark grayish brown (10YR 3/2) silt loam, underneath which was a brown (7.5YR 5/3) silty clay loam plow zone with manganese inclusions. After the quartz point was recovered, further excavation of Stratum II was not possible due to several tree roots. Four radials, one in each direction, were excavated around the positive STP. The stratigraphy was similar in each of these. Excavation proceeded into subsoil in the northern, eastern, and western radials, but not in the southern radial due to dense tree roots. No additional artifacts were recovered from these radial STPs.





**Figure 13: Photograph of quartz point recovered from plow zone of STP N495E840**

Both strata I and II of STP N390E645 generated prehistoric artifacts. Stratum I of the STP consisted of a dark brown (10YR 3/3) loam, only three centimeters in thickness. Stratum I generated one quartzite biface (**Figure 14**). Underneath Stratum I was a dark yellowish brown (10YR 4/4) silty clay loam, which generated two quartzite flakes. The plow zone was only seven centimeters in this location. The subsoil consisted of a strong brown (7.5YR 4/6) silty clay loam with iron staining in this location. Four radial STPs were excavated in the four cardinal directions at 7.5-meter intervals. The stratigraphy in each one of these STPs was identical, but no additional artifacts were recovered.

The topsoil of STP N540E870 generated a large quantity of charcoal. The topsoil in this location consisted of a very dark brown (10YR 2/2) silt loam, 12 centimeters in thickness. Underneath was a dark yellowish brown (10YR 4/4) silty clay loam plow zone, 15 centimeters in thickness. The subsoil comprised a brown (7.5YR 5/3) silty clay loam. Because the charcoal was virtually on the surface of the STP and no additional artifacts were recovered or recorded, no radials were excavated. The surrounding ground was, however, examined to ensure that there were no other associated cultural materials.



**Figure 14: Photograph of quartzite biface recovered from topsoil of STP N390E645**

STPs N600E615 and N615E600 both generated bottle glass fragment from within the plow zone. This area exhibited a shallower topsoil (three to four centimeters), a slightly darker (a dark grayish brown [10YR 5/2] silty clay loam), more organic, and thicker (ten to 22 centimeters) plow zone. The bottle glass appeared to be modern, and so no radials were excavated around these.

STP N435E480 generated two fragments of iron wire from the plow zone. The STP was located just to the west of Willard Road. The plow zone from which these fragments were recovered appeared to be disturbed by recent earth-moving activities. It consisted of a light yellowish brown (10YR 6/4) clay mixed with 20 percent light gray (10YR 7/2) clay, 12 centimeters in thickness. STPs to the north exhibited a similar stratigraphy. No radials were excavated.

#### **5.4.1 Site 44LD1087**

Site 44LD1087 is interpreted as a prehistoric temporary camp site situated just south of a wetland and beaver pond. It was identified in 2003 via shovel testing for the Crosswinds Runway (Embrey et al. 2004:193). A total of three STPs recovered one quartz flake each. Due to the small number of artifacts and the lack of any diagnostic artifacts recovered, the site was determined not eligible for the National Register.

A total of four STPs at 15-meter intervals were excavated within the site boundary during the current survey (**Figure 15**). Planned STPs, along the northern perimeter of the site were not possible due to standing water. The stratigraphy consisted of a thin (four to 11 centimeters) brown (10YR 4/3) silt loam (Ao-horizon); a gray (10YR 5/1) clay loam with five percent bedrock, 15 to 17 centimeters in thickness (Ap-horizon); and a gray (10YR 6/1) to grayish brown (10YR 5/2)



clay loam with five percent bedrock (Bt-horizon). The surface of the site was carefully inspected for historic or prehistoric artifacts, but none were located.

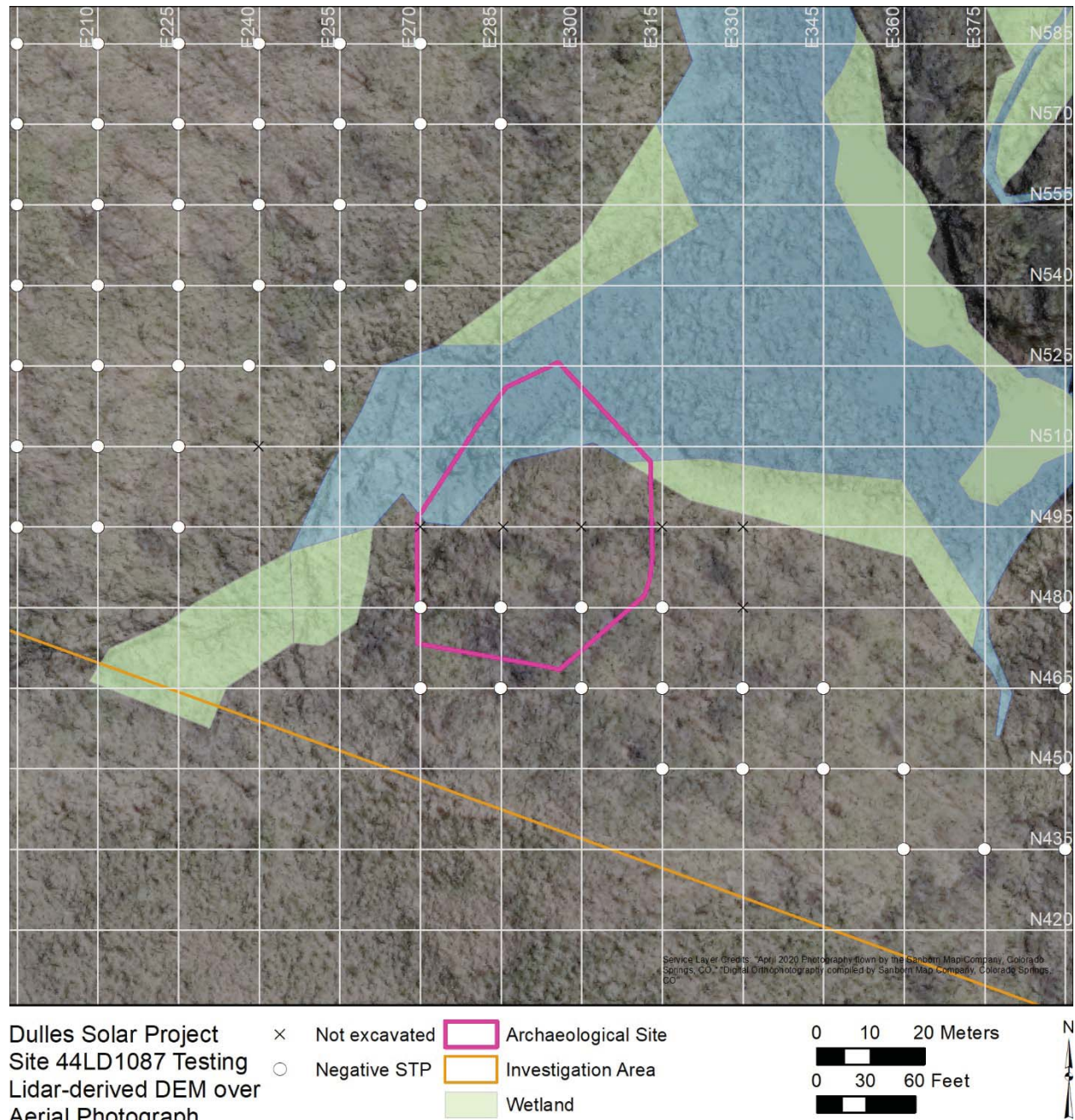


Figure 15: Site 44LD1087 testing

#### 5.4.2 Site 44LD1088

Site 44LD1088 has been interpreted as a prehistoric temporary camp site just north of a seasonal stream. The site was identified in 2003 during shovel testing for the Crosswinds Runway project (Embrey et al. 2004:193). A total of 22 rhyolite flakes were recovered from a two STPs, suggesting

a single episode of tool production. Due to the lack of any diagnostic artifacts, this site was determined not eligible for the National Register.

A total of nine STPs were excavated at regular 15-meter intervals within Site 44LD1088, and seven additional radial STPs (**Figure 16**). The stratigraphy of the site was similar to that of the surrounding area. A thin topsoil of very dark grayish brown (10YR 3/2) was situated over a yellowish brown (10YR 5/4) silt loam (plow zone), up to 18 centimeters in thickness. The subsoil varied between a light olive brown (2.5Y 5/3) silty clay loam and a dark reddish gray (5YR 4/2) silt loam with degraded siltstone and iron and manganese staining.

One quartz flake was recovered from the plow zone of STP N540E120, and one unworked quartz cobble was recovered from N525E165, which prompted the additional radial STPs, in the latter case as a precautionary measure. A radial STP to the west of STP N540E120 was not possible due to its proximity to the road. All radial STPs were negative except for one. A rhyolite Morrow Mountain Type II point base was recovered from topsoil of STP N540E120 RS, which dates to the Middle Archaic (**Figure 17**). The blade has been entirely broken off, so that only the exaggerated contracting stem remains. No other artifacts were recovered from the site. In addition, the proximity of the only two prehistoric finds to a visible berm delineating Striker Avenue suggests a secondary deposit.

## 6 INTERPRETATION AND RECOMMENDATIONS

The Phase I archaeological survey of the Dulles Solar Project APE did not identify any new sites. The recovery of one diagnostic artifact has helped refine the chronology of prehistoric site 44LD1088. Sites 44LD1087, 44LD1089, and 44LD1090 were also investigated. The original recommendation for all the sites was that they were not eligible for the National Register since they lack integrity and information potential. That recommendation stands.

With only a few exceptions, which were extensively investigated, the entire Dulles Solar Project area possesses little to no potential for archaeological resources based on severe soil deflation, resulting in the lack of a historic plow zone in many areas. No further work is recommended.





**Figure 16: Site 44LD1088 testing**



**Figure 17: Photograph of Morrow Mountain Type II base from topsoil of STP N540E120 RS**

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2016 *Phase I And Phase II Archeological Investigations for Western Lands Area, Washington Dulles International Airport, Loudoun County, Virginia*. Prepared for Metropolitan Washington Airports Authority, Washington, District of Columbia.

Zen, E-an, and Alta Walker

2000 *Rocks and War: Geology and the Civil War Campaign of Second Manassas*. White Mane Books, Shippensburg, PA.

## **APPENDIX A: KEY PERSONNEL**



## **ROBERT W. WANNER, PH.D.**

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### **EDUCATION**

- 2006-2010      Ph.D. in Archaeology, University of Leicester, Leicester, United Kingdom, “Forts, fields and towns: communities in Northwest Transylvania from the first century BC to the fifth century AD”
- 2004-2006      M.A. in Classical Archaeology, Tufts University, Massachusetts, “A Gazetteer for the Kasserine Archaeological Survey (Kasserine-Feriana region of Tunisia)”
- 1998-2002      B.A. in Classical Archaeology, History (double major), University of Evansville, Indiana, minor in Anthropology; Magna cum laude

### **EMPLOYMENT**

- 2011-present      Archaeologist/GIS specialist, EAC/A, Inc., Baltimore, Maryland
- 2017-2018      Lecturer, Johns Hopkins University, Baltimore, Maryland
- 2016      Adjunct Professor, Towson University, Towson, Maryland
- 2007-2009      Instructor of Record, University of Leicester, Leicester, UK
- 2002-2004      Archaeologist, Historic St. Mary’s City, Maryland

### **RECENT FIELD AND RESEARCH PROJECTS**

2020. BWI Thurgood Marshall Airport Historic Preservation Plan, BWI Thurgood Marshall Airport, Maryland.
2020. Phase II Archaeological Evaluation of Site 18AN1598, Spriggs Farm on the Magothy, Anne Arundel Count, Maryland.
2019. Phase I Archaeological Identification for Brock Bridge Road/Little Patuxent River Embankment Project, Anne Arundel County, Maryland.
2019. Cultural Resource Report for Bowen Springhouse, Baltimore, Maryland.
2019. Phase I Archaeological Survey for Bluegrass Solar Project, Queen Anne’s County, Maryland.
2019. Phase I Archaeological Survey for 219 and 219A, Brushy Mountain Area, Monongahela National Forest, White Sulphur Springs, West Virginia.
2018. Phase I Archaeological Survey for Jonestown Mews Project, 921-923 E. Baltimore Street, Baltimore, Maryland.
2018. Phase I Archaeological Survey for Route 28 Widening, Centreville, Fairfax County Virginia.
2017. Archaeological Monitoring for Potomac Street Drain Installation, Harpers Ferry, West Virginia.
2017. Archaeological Monitoring for Homewood Museum Roof Drainage Improvements, Johns Hopkins University, Baltimore, Maryland.
2017. Phase I Archaeological Identification of BWI Marshall Airport, Anne Arundel County, Maryland.
2017. Dulles International Airport Western Lands Area – Viewshed Study and Impact Assessment, Dulles International Airport, Virginia.

2017. Phase IA Archeological Evaluation for SR 3006 Section 350 Bridge Replacement, Madison Township, Clarion County, Pennsylvania.
2016. Phase II Archaeological Survey of the Western Lands Area of IAD, Arlington, Fairfax and Loudoun Counties, Virginia.
2015. Phase I Archaeological Identification of Newark Regional Transportation Center, Newark, Delaware.
2015. Phase I Archaeological Survey of the Western Lands Area of IAD, Arlington, Fairfax and Loudoun Counties, Virginia. 2015. Arlington National Cemetery Southern Expansion Site – Viewshed Study, Arlington County, Virginia.
2015. Phase I Archeological Survey for MD 355 At West Old Baltimore Road, and Phase II Archaeological Testing at The Neelsville Blacksmith Residence/Shop (18MO734), Montgomery County, Maryland.
2015. Stage 1 - Phase IB Archeology Interim Report, Baltimore Red Line Light Rail Project, City of Baltimore and Baltimore County, Maryland.
2014. Land Use Study for Downtown Tunnel Segment, City of Baltimore and Baltimore County, Maryland.
2014. Land Use Study for Cooks Lane Tunnel Segment, Baltimore County, Maryland.
2014. Catoctin Furnace Stone House 1, Thurmont, Maryland: A Phase I Archaeological Identification.
2014. Phase I Archeology Technical Report for C18: Powder Mill Run Restoration Site, Baltimore City, MD.
2014. Crittenton Place, Hampden, Baltimore City, Maryland: A Phase II Archaeological Evaluation.
2014. Phase IB Archaeological Survey for the SR 1002, Section 651, Skinners Falls Bridge Rehabilitation, Milanville, Damascus Township, Wayne County, Pennsylvania.
2013. Phase I Archaeological Identification of Crittenton Place, Baltimore, Maryland.
2013. Maryland Inventory of Historic Properties Addendum for Bridge 1800800 (SM-520), MD5 Over Eastern Branch.
2013. Stage 2 Phase 2 Archaeology Technical Report for Ward Farmstead (Site 18BA582), Baltimore County, Maryland.
2013. Stage 1 Phase 1B Archaeology Technical Report, Red Line Light Rail Transit Project, City of Baltimore and Baltimore County, Maryland.
- 2012.
2012. Historic Resource Survey Form for St. Mary Magdalene Church in La Anna, Wayne County, Pennsylvania.
2012. Phase I Archaeological Investigation of the North Severn Waste Water Treatment Plant Upgrade, Naval Support Activity, Annapolis, Maryland.
2008. Geophysical Survey of Hallaton, Leicestershire, England
- 2006-2011. Porolissum Forum Project (Associate Field Director), Moigrad, Romania.

## **PUBLICATIONS**

2016. Construction History and Lifeways in The Civilian Settlement of Porolissum As Observed in Area 22 Of the Porolissum Forum Project (co-authored with Eric De Sena), *Acta Musei Porolissensis* 38: 309-328.
2010. Animals and Grain on the Frontier: Some considerations of Roman land-use in the Meseş Gate of Roman Dacia. In: Pop, H. (ed.), *Identități culturale locale și regionale în context*

- European. Studii de arheologie și antropologie istorică. In memoriam Alexandri V. Matei* [Local and regional cultural identity in the European context. Studies of archaeology and historical anthropology. In memoriam of Alexandru V. Matei.]. Cluj-Napoca: Mega.
2010. Three Dying Towns: Reflections on the immediate Post-Roman phase of Napoca, Potaissa and Porolissum (co-authored with Eric De Sena). In: Sami, D. and Speed, G. (eds.), *Debating Urbanism: beyond the walls*. Leicester: Leicester University Press.
2008. Dealing with dichotomies in Roman archaeology, Theoretical Roman Archaeology Conference/ Roman Archaeology Conference, Amsterdam, Netherlands, March 5.

## CONFERENCE PAPERS

### Sessions Organized

- 2016 Heritage from the Ground Up: Using Technology to Study Enslaved and Free Workers in an Iron-making Community, Society for Historical Archaeology Annual Meeting, Washington, District of Columbia, January 8.
2014. Lives Wrought in the Furnace: Archaeological Investigations of the Labor Force at Catocin Furnace at Eastern States Archaeological Federation Annual Meeting, Ocean City, Maryland, November 1.
2012. Roman Dacia and Moesia: archaeology and heritage preservation in Romania, Archaeological Institute of America Annual Meeting, Philadelphia, Pennsylvania, January 5.

### Papers Presented

2018. "This strange spirit of procrastination": Alcohol and medicine at Charles Carroll Jr.'s Homewood. Society for Historical Archaeology Annual Meeting, New Orleans, Louisiana, January 4.
2016. A Forest for the Trees: Remote Sensing Applications and Historic Production at Cunningham Falls State Park, Archeological Society of Maryland, Inc. Annual Meeting, Catocin Furnace, Maryland, October 22.
2016. Heritage from the Ground Up: Using Technology to Study Enslaved and Free Workers in an Iron-making Community (co-authored with Elizabeth Comer and Jane Seiter), MHT and ASM Workshop in Archaeology, Crownsville, Maryland, March 26.
2016. Forest for the Trees: Remote Sensing Applications and Historic Production at Cunningham Falls State Park (co-authored with Bryce Davenport), Society for Historical Archaeology Annual Meeting, Washington, District of Columbia, January 8.
2016. Excavations at Historic Neelsville: Life as a Tenant Blacksmith (co-authored with Jane Seiter), Society for Historical Archaeology Annual Meeting, Washington, District of Columbia, January 7.
2014. Mapping the Edges. Ground-penetrating radar survey at the Catocin African American cemetery (co-authored with Till Sonnemann), 81st Annual Meeting of the Eastern States Archeological Federation, Solomons, Maryland, November 1.
2014. Germans in Northwest Transylvania. Social Relations from Marcus Aurelius to the post-Roman period, Archaeological Institute of America Annual Meeting, Chicago, Illinois, January 3.
2010. Animals and Grain: Exploring socioeconomic change along the Meseș *limes*. Defensive system, military infrastructure and the daily life on the borders of the Roman Empire, Târgu Mureș, Romania, December 4.

## **APPENDIX B: ARTIFACT INVENTORY**



# ARTIFACT CATALOG - Dulles Solar Project

## 44LD1088

Catalog No.	Provenience	Material	Description	Fabric Color	Decoration	Dec. Color	Frg	MNI	Comments	Disc./Samp.
1.1	STP N540 E120 Strat I	Quartz	Angular shatter	White; Orange			1	1		Discarded in lab
3.1	STP N540 E120 RS Strat II	Rhyolite	Point	Gray			1	1	Morrow Mountain Type II. L: 36mm, W: 37mm at shoulder, 22mm at base T: 10mm. Stem possibly missing.	Discarded in lab

## 44LD1089

Catalog No.	Provenience	Material	Description	Fabric Color	Decoration	Dec. Color	Frg	MNI	Comments	Disc./Samp.
16.1	STP N330 W765 Strat II	Quartz	Indefinite flake tool	White			1	1		Discarded in lab

## Non-Site

Catalog No.	Provenience	Material	Description	Fabric Color	Decoration	Dec. Color	Frg	MNI	Comments	Disc./Samp.
2.1	STP N525 E165 Strat II	Quartzite	Other	Red			1	1		Discarded in lab
4.1	STP N405 E480 Strat I	Glass	Bottle	Clear			8	1		Discarded in lab
5.1	STP N435 E480 Strat II	Iron alloy	Wire				2	1		Discarded in lab
6.1	STP N510 E540 Strat II	Glass	Beer bottle	Amber	Embossed		1	1	"sh", bunch of grapes, pine tree embossed. Possibly Busch beer bottle.	Discarded in lab
7.1	STP N600 E615 Strat II	Glass	Bottle	Clear			2	1		Discarded in lab
8.1	STP N615 E600 Strat II	Glass	Bottle	Amber			1	1		Discarded in lab
8.2	STP N615 E600 Strat II	Glass	Bottle	Clear			2	1		Discarded in lab
9.1	STP N390 E645 Strat II	Quartzite	Indefinite biface	Gray			1	1		Discarded in lab
9.2	STP N390 E645 Strat II	Quartzite	Flake	Light gray			2	1		Discarded in lab
10.1	STP N300 E735 Strat II	Quartzite	Other	Brown			1	1	Cobble.	Discarded in lab
11.1	STP N540 E675 Strat II	Quartz	Other	Dark red			1	1	Cobble	Discarded in lab
12.1	STP N540 E870 Strat I	Charcoal	Charcoal	Black			25	1		Discarded in lab
13.1	STP N495 E840 Strat II	Quartz	Point	White			1	1	One side of stem absent. L: 44mm W: 22mm at shoulder T: 8mm. Possible expanding stem or side notched.	Discarded in lab
14.1	STP N195 E1035 Strat I	Quartz	Other	Tan; Gray			1	1	Cobble	Discarded in lab

Catalog No.	Provenience	Material	Description	Fabric Color	Decoration	Dec. Color	Frg	MNI	Comments	Disc./Samp.
15.1	STP N330 E1140 Strat II	Rhyolite	Flake	Gray			1	1		Discarded in lab
17.1	STP N45 W1815 Strat II	Quartz	Angular shatter	White; Brown			1	1	Cortex present.	Discarded in lab
17.2	STP N45 W1815 Strat II	Quartz	Flake	White			1	1	Cortex remaining.	Discarded in lab
17.3	STP N45 W1815 Strat II	Terracotta	Flowerpot	Red			1	1		Discarded in lab
17.4	STP N45 W1815 Strat II	Bituminous	Coal	Black			1	1		Discarded in lab
18.1	STP N15 W1815 Strat II	Concrete	Concrete	Black; White			1	1	Pebble inclusions in fabric. Fibrous paper/tar paper material on surface.	Discarded in lab
19.1	STP N15 W1815 Strat II	Glass	Bottle	Clear			1	1		Discarded in lab
20.1	STP N30 W1800 Strat II	Brick	Brick	Dark red			1	1	Scored on 2 sides. One corner rounded concave. White inclusions.	Discarded in lab
21.1	STP N165 W1110 Strat II	Quartz	Other	Orange			1	1	Cobble.	Discarded in lab
21.2	STP N165 W1110 Strat II	Quartz	Other	Brown			1	1	Cobble	Discarded in lab
22.1	STP N395 W1260 Strat I	Glass	Canning jar lid liner	White milk	Embossed		1	1	Embossed "COMPAN".	Discarded in lab
23.1	STP N45 W705 Strat II/III	Quartz	Flake	White			1	1		Discarded in lab
24.1	STP N45 W705 RW Strat I	Quartzite	Angular shatter	Brown			1	1		Discarded in lab
24.2	STP N45 W705 RW Strat I	Glass	Bottle	Clear			1	1		Discarded in lab
25.1	STP N375 E1155 Strat I	Glass	Bottle	Clear	Embossed		1	1	Embossed line. Thick glass.	Discarded in lab
26.1	STP N2400 E915 Strat Surface	Copper alloy	Nickel				1	1	"S" above Monticello; minted at San Francisco.	Discarded in lab
27.1	STP N2400 E525 Strat I	Iron alloy	Wire nail				1	1		Discarded in lab
28.1	STP N2400 E315 Strat I	Glass	Bottle	Clear			1	1		Discarded in lab
29.1	STP N2490 E750 Strat II	Quartzite	Other	Brown			1	1	Cobble	Discarded in lab
30.1	STP N390 E585 Strat II	Jasper	Other	Dark brown; Dark red			1	1		Discarded in lab